AMENDMENTS TO THE CLAIMS

The following is a list of all active claims in the application along with the status of each as of the filing of this Amendment F.

1. **(Currently Amended)** An apparatus for simulating human blood pressure cycles and providing a tactile interface comprising:
   an element to generate pressurized fluid external to a pressure vessel;
   the pressurized fluid is pneumatically conveyed to inside of the pressure vessel whereby a human senses, through touch, pressure amplitudes within the pressure vessel;
   simulated human blood pressure levels maintained within the pressure vessel;
   the simulated human blood pressure levels ~~cyclically~~ oscillate between diastolic and systolic pressure levels with a frequency equivalent of a human cardiac pulse rate[.]; and
   a pressure sensor electronically senses pressure levels within the pressure vessel and provides pressure data feedback to an electronic control unit.

2. **(Original)** The apparatus of claim 1 wherein the fluid is a gas.

3. **(Original)** The apparatus of claim 1 wherein the fluid is a substantially segregated mixture of gas and liquid.

4. **(Previously Presented)** The apparatus of claim 1 wherein the pressure vessel further comprises at least one moveable surface.

5. **(Canceled)**

6. **(Original)** The apparatus of claim 1 further comprising at least one pressure sensor to determine the pressure level within the pressure vessel.

7. **(Previously Presented)** The apparatus of claim 1 further comprising an electromechanically actuated pressure regulator connected to the pressure vessel.

8. **(Previously Presented)** The apparatus of claim 1 further comprising an electric solenoid controlled valve system connected to the pressure vessel.

9. **(Original)** The apparatus of claim 1 wherein the element to generate pressurized fluid is at least one electric powered pump.

10. **(Original)** The apparatus of claim 1 wherein the pressure vessel comprises an elastomeric, hollow bulb that can be held in a human hand and internal pressure amplitudes of fluid within the bulb are sensed by human touch.

11. **(Original)** The apparatus in claim 10 further comprising an incompressible member positioned within the elastomeric hollow bulb such that substantial portions of the internal surfaces of the bulb are held in contact with the incompressible member by manually squeezing the bulb.

12. **(Canceled)**

13. **(Previously Presented)** The apparatus of claim 1 wherein the pressure vessel comprises an inflatable cuff whereby the cyclic, simulated blood pressure levels inside the cuff are sensed by human touch.

14. **(Previously Presented)** The apparatus of claim 1 wherein the pressure vessel is comprised of an elastic walled, closed tube whereby the cyclic, simulated blood pressure levels inside the tube are sensed by human gripping of the tube.

15. **(Original)** The apparatus of claim 1 further comprising at least one user operable control to select minimum and maximum limits of pressures within the pressure vessel to simulate diastolic and systolic blood pressure levels.

16. **(Previously Presented)** The apparatus of claim 1 further comprising at least one user operable control to set a simulated cardiac pulse rate for the simulated human blood pressure cycles.

17. **(Canceled)**

18. **(Canceled**

19. **(Currently Amended)** An apparatus for simulating normal and abnormal human blood pressure and providing a tactile interface comprising:

a pressure vessel containing pressurized fluid generated outside of the pressure vessel and pneumatically conveyed inside of the pressure vessel, the vessel having at least one moveable surface whereby a human senses, through touch, periodic pressure amplitudes within the pressure vessel;

the periodic pressure amplitudes comprising at least one normal, human blood pressure amplitude cycle and at least one abnormal, human blood pressure amplitude cycle in the pressure vessel;

each normal and abnormal human blood pressure amplitude cycle having a frequency equal to a human cardiac pulse cycle; ~~and~~

a user operable, electronic switch toggles between normal and abnormal blood pressure amplitude cycles experienced in the pressure vessel; and

a visual indicator to display indicia which specify pressure amplitudes within the pressure vessel.

20. **(Original)** The apparatus of claim 19 wherein the fluid is a gas.

21. **(Original)** The apparatus of claim 19 wherein the fluid is a substantially segregated mixture of gas and liquid.

22. **(Previously Presented)** The apparatus of claim 19 wherein the pressurized fluid is generated by at least one manually operated pump.

23. **(Original)** The apparatus of claim 19 wherein the pressure vessel comprises an elastomeric, hollow bulb that can be held in a human hand and internal pressure amplitudes of fluid within the bulb are sensed by human touch.

24. **(Canceled)**

25. **(Previously Presented)** The apparatus of claim 19 wherein the pressure vessel comprises an inflatable cuff whereby the periodic pressure amplitudes inside the cuff are sensed by human touch.

26. **(Previously Presented)** The apparatus of claim 19 wherein the pressure vessel comprises an elastic walled, closed tube whereby the pressure amplitude inside the tube is sensed by human touch.

27. **(Original)** The apparatus of claim 19 whereby the visual indicator comprises an electronic digital display.

28. **(Original)** The apparatus of claim 19 whereby the visual indicator comprises an analog pressure gauge.

29. **(Currently Amended)** An apparatus for simulating human blood pressure cycles comprising:

an element to generate pressurized fluid external to a pressure vessel whereby
the pressurized fluid is at least partially conveyed to inside of the pressure vessel;

the pressure vessel comprising at least one moveable surface whereby a human senses, through touch, periodic pressure magnitudes of the pressurized fluid acting upon the moveable surface;

the periodic pressure magnitudes comprising a human diastolic pressure level and a human systolic pressure level defining lower and upper pressure bounds of a simulated blood pressure cycle, respectively;

the simulated blood pressure cycle having a frequency equal to a cardiac pulse rate of a human; ~~and~~

a pressure sensor electronically senses pressure levels within the pressure vessel and provides pressure data feedback to an electronic control unit; and

the apparatus is not ~~is~~ used to measure an actual blood pressure of a human.

30. **(Original)** The apparatus of claim 29 wherein the fluid is a gas.

31. **(Original)** The apparatus of claim 29 wherein the fluid is a substantially segregated mixture of gas and liquid.

32. **(Currently Amended)** The apparatus of claim 29 whereby the element to generate pressurized fluid includes at least one electric pump.

33. **(Currently Amended)** The apparatus of claim 29 whereby the element to generate pressurized fluid is at least one manually operated pump.

34. **(Original)** The apparatus of claim 29 further comprising a visual pressure level indicator including an electronic digital display.

35. **(Original)** The apparatus of claim 29 further comprising a visual pressure level indicator including an analog display.

36. **(Currently Amended)** A method for conveying by touch, to a human subject, a level of pressure within a ~~pressurized~~ pressure vessel comprising:

generating pressurized fluid external to the pressure vessel and conveying said fluid to inside of the pressure vessel;

regulating periodic pressure levels of the pressurized fluid within the pressurized vessel indicative of a simulated human blood pressure cycle maintaining a frequency of the periodic pressure levels equal to a cardiac pulse rate of a human subject; ~~and~~

switching between normal and abnormal simulated, human blood pressure levels experienced within the pressure vessel by activating an electronic switch; and

containing the pressurized fluid in the pressurized vessel whereby a human subject senses the pressure levels of the pressurized fluid therein by touching of the pressurized vessel.

37. **(Original)** The method of claim 36 wherein the fluid is a gas.

38. **(Original)** The method of claim 36 wherein the fluid is a substantially segregated mixture of gas and liquid.

39. **(Currently Amended)** An apparatus for simulating human blood pressure cycles comprising:

a chamber containing pressurized fluid having a distendable surface through which a human senses, through touch, fluid pressure amplitudes within the chamber;

an element to generate the pressurized fluid outside of the chamber whereby pressure amplitudes of the pressurized fluid are pneumatically conveyed inside of the chamber;

periodic, simulated diastolic and systolic blood pressure levels are maintained within the pressure vessel simulating a cardiac cycle with a frequency equal to the cardiac pulse rate of a human; ~~and~~

~~at least one user-operated, electronic control to set at least one of a diastolic pressure level, a systolic pressure level, and a cardiac pulse rate to be simulated by the apparatus.~~

a pressure sensor electronically senses pressure levels within the pressure vessel and provides pressure data feedback to an electronic control unit.

40. **(Original)** The apparatus of claim 39 wherein the fluid is a gas.

41. **(Original)** The apparatus of claim 39 wherein the fluid is a substantially segregated mixture of gas and liquid.

42. **(Previously Presented)** An apparatus for simulating human blood pressure and providing a tactile interface comprising:

a first elastomeric hollow bulb to pressurize fluid by manual compression of the bulb;

a second elastomeric hollow bulb pneumatically connected to the first elastomeric hollow bulb through a bi-directional flow connection such that the pressure in the second bulb is controlled by the amount of manual compression of the first bulb;

the second elastomeric hollow bulb providing a tactile interface to a human subject whereby the human subject physically senses fluid pressure magnitudes internal to the second bulb by gripping the second bulb with at least one hand; and

a visual indicator to display indicia which specifies pressure magnitudes within the second elastomeric hollow bulb.

43. **(Previously Presented)** The apparatus in claim 42 further comprising an incompressible, non-liquid member positioned within the second elastomeric hollow bulb such that substantial portions of the internal surfaces of the bulb are held in contact with the member.

44. **(Previously Presented)** The apparatus of claim 19 further comprising at least one user-operated control to set pressure excursion parameters within the pressure vessel.

45. **(Previously Presented)** The apparatus of claim 44 wherein the pressure excursion parameters are selected from the group consisting of simulated pulse rate, simulated diastolic pressure level, and simulated systolic pressure level.

46. **(Previously Presented)** The apparatus of claim 29 further comprising at least one user-operated control to set pressure excursion parameters within the pressure vessel.

47. **(Previously Presented)** The apparatus of claim 46 wherein the pressure excursion parameters are selected from the group consisting of simulated pulse rate, simulated diastolic pressure level, and simulated systolic pressure level.

48. **(Canceled)**

49. **(Canceled)**

50. **(Previously Presented)** The apparatus of claim 1 further comprising a user-operated control to switch at least the simulated systolic blood pressure level between normal and abnormal values.

51. **(Previously Presented)** The apparatus of claim 29 further comprising a user-operated control to switch at least the human systolic blood pressure level between normal and abnormal values.

52. **(Previously Presented)** The method of claim 36 further comprising switching between normal and abnormal simulated blood pressure cycles.

53. **(Previously Presented)** The apparatus of claim 39 further comprising a user-operated control to switch at least the simulated systolic blood pressure level between normal and abnormal values.

54. **(Cancel)**

55. **(Previously Presented)** The apparatus in claim 23 further comprising an incompressible, non-liquid member positioned within the elastomeric hollow bulb such that substantial portions of the internal surfaces of the bulb are held in contact with the member.

56. **(Previously Presented)** The method of Claim 36 further comprising:

indicating, on a visual display, the pressure level of the pressurized fluid.

57. **(Previously Presented)** An apparatus for simulating human blood pressure and providing a tactile interface comprising:

an elastomeric hollow bulb containing pressurized fluid whereby a human physically feels, by gripping the bulb, a pressure level within the bulb;

an element to generate the pressurized fluid outside of the bulb whereby pressure levels of the pressurized fluid are pneumatically conveyed to inside of the bulb; and

a device to control the pressure level within the bulb to simulate at least one of a normal and an abnormal human blood pressure level within the bulb.